



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,100	09/16/2003	Peter Blakeborough Kenington	1052.043	1636
22186	7590	06/02/2006	EXAMINER	LE, LANA N
			ART UNIT	PAPER NUMBER
			2618	

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/663,100	KENINGTON, PETER BLAKEBOROUGH	
Examiner	Art Unit		
Lana N. Le	2618		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 22 March 2006.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 18-37 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 18,20,21 is/are rejected.

7) Claim(s) 19-25 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 18, 26-28, 30, 33-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Hashimoto et al (US 2002/0,169,731).

Regarding claim 18, Hashimoto et al disclose a radio transmitter (fig. 7) for transmitting signals in a designated frequency band comprising:

a compensating filter (feed-forward filter 700; fig. 6) adapted to filter the signal upstream from the transmit filter (para. 18),

an amplifier (106) connected downstream of the amplifier, wherein:

a transmit filter (101) adapted to filter a signal to be transmitted from the transmitter to suppress the transmission of parts of the signal outside the band (para. 56); and the compensating filter (700) is adapted to alter the outgoing signal to reduce one or more features generated by the transmit filter (101) within the band in the transmission signal (para. 43, 22).

Regarding claim 26, Hashimoto et al disclose the invention of claim 18, wherein the one or more features comprise at least one of a phase ripple, an amplitude ripple,

and a group delay variation of the transmit filter within the band (feedforward filter for phase compensation added to IIR filter for amplitude compensation; para. 12, 18).

Regarding claim 27, Hashimoto et al disclose the invention of claim 26, wherein the one or more features comprise the phase ripple of the transmit filter within the band (para. 43).

Regarding claim 28, Hashimoto et al disclose the invention of claim 26, wherein the one or more features comprise the amplitude ripple of the transmit filter within the band (paras. 11-12).

Regarding claim 30, Hashimoto et al disclose the invention of claim 26, wherein the one or more features comprise at least two of the phase ripple, the amplitude ripple, and the group delay variation of the transmit filter within the band (feedforward filter for phase compensation added to IIR filter for amplitude compensation; para. 12, 18).

Regarding claim 33, Hashimoto et al disclose the invention of claim 18, wherein Hashimoto et al do not disclose a linearizer (104; para. 6) connected upstream of the amplifier (106) and adapted to predistort the outgoing signal to reduce distortion introduced into the transmission signal by the amplifier.

Regarding claim 34, Hashimoto et al disclose a method for generating a transmission signal in a frequency band, comprising:
amplifying (via 106) the outgoing signal;
transmit filtering (via 101) a signal to be transmitted to suppress parts of the amplified outgoing signal outside of the band for the transmission signal (para. 56); and

altering the outgoing signal (via 700; fig. 6) prior to amplifying the outgoing signal (para. 18), to reduce the one or more features generated by the transmit filtering within the band in the transmission signal (paras. 43, 22).

Regarding claim 35, Hashimoto et al disclose the invention of claim 34, wherein the one or more features comprise at least one of a phase ripple, an amplitude ripple, and a group delay variation of the transmit filter within the band (feedforward filter for phase compensation added to IIR filter for amplitude compensation; para. 12, 18).

Regarding claim 36, Hashimoto et al disclose an apparatus for generating a transmission signal in a frequency band, the apparatus comprising:

means for amplifying (via 106) an outgoing signal;

means for transmit filtering (via 101) the amplified outgoing signal to suppress parts of the amplified outgoing signal outside of the band for the transmission signal (para. 56); and

means for altering the outgoing signal (via 700; fig. 6) prior to amplifying the outgoing signal (para. 18), to reduce one or more features generated by the transmit filtering within the band in the transmission signal (paras. 43, 22).

Regarding claim 37, Hashimoto et al disclose the invention of claim 36, wherein the one or more features comprise at least one of the phase ripple, the amplitude ripple, and the group delay variation of the transmit filter within the band (feedforward filter for phase compensation added to IIR filter for amplitude compensation; para. 12, 18).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (US 2002/0,169,731) in view of Hadjichristos (US 2004/0,219,891).

Regarding claim 29, Hashimoto et al disclose the invention of claim 26, wherein Hashimoto does not disclose the one or more features comprise the group delay variation of the transmit filter within the band. Hadjichristos discloses the one or more features comprise the group delay variation of the transmit filter within the band (paras. 67-68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the signal to change the group delay variation in order to reduce adjacent channel power ratio (paras. 8, 13).

Regarding claim 31, Hashimoto et al disclose the invention of claim 26, wherein Hashimoto et al disclose the one or more features comprise the phase ripple and the amplitude ripple of the transmit filter within the band. Hashimoto does not disclose the one or more features comprise the group delay variation of the transmit filter within the band. Hadjichristos discloses the one or more features comprise the group delay variation of the transmit filter within the band (para. 13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the signal of

Hashimoto et al to also include the group delay in order to reduce adjacent channel power ratio.

5. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al (US 2002/0,169,731) in view of Uriu et al (US 2003/0,092,397).

Regarding claim 32, Hashimoto et al discloses the invention of claim 18, further comprising:

an antenna (103) connected downstream of the transmit filter and adapted to transmit the transmission signals from the apparatus and receive a received signal transmitted to the apparatus (para. 103);

a receiver circuitry (107; fig. 7) adapted to process the receive signals.

Hashimoto et al do not disclose a diplexer connected to allow the transmission signal to pass signals from the transmit filter to the antenna and the received signal to pass from the antenna to the receiver circuitry. Uriu et al disclose a diplexer connected to allow the transmission signal to pass signals from the transmit filter to the antenna and the received signal to pass from the antenna to the receiver circuitry. (82, 83; fig. 10) (para. 207, 127). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the diplexer of Uriu to Hashimoto in order to pass signals of the high frequency band without being attenuated over a wide frequency band as suggested by Uriu et al (para. 34).

Response to Arguments

6. Applicant's arguments with respect to new claims 18-37 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

7. Claims 19-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 19, the invention of claim 18, further comprising:
a first sampler connected downstream of the transmit filter and adapted to sample the transmission signal generated by the transmit filter to generate a first feedback signal prior to transmission of the transmission signal; and
a feedback path connected between the first sampler and the compensating filter and adapted to provide the first feedback signal to the compensating filter; wherein:
the compensating filter is adapted to alter the outgoing signal to reduce the one or more features based on the first feedback signal.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana N. Le whose telephone number is (571) 272-7891. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lana Le

May 28, 2006


528-06

LANA LE
PRIMARY EXAMINER
PRIM. EXAMINER